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Spy satellites grow sharper, expert reveals

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WASHINGTON — "Almost miraculous" advances in spy satellites to be launched from the space shuttle will significantly improve U.S. ability to peer into the Soviet Union and check on compliance with arms control agreements, according to a specialist in technical intelligence gathering.

In reaching this conclusion, John Pike of the Federation of American Scientists gave rare insights into the monitoring capabilities of new spacecraft and sought to undercut critics of arms control agreements who say cheating is increasingly hard to detect.

Satellites orbiting several hundred miles above Earth will be able to distinguish objects 6 inches across, he said. Others, watching missile tests, will provide infrared images from which a "college freshman in engineering" could detect modifications. Mobile missiles may no longer be concealable because of maneuverable satellites.

Mr. Pike discussed the "almost miraculous strides in monitoring techniques" in a recent speech at a Frankfurt Peace Research Institute conference in West Germany and elaborated in a telephone interview.

"There is a lot of stuff about how verification is going to become more difficult," he said. "To the contrary, the verification technology that we will have will be significantly better than in the past."

It is now generally accepted that a space shuttle to be launched in January from the Kennedy Space Center will release an electronic intelligence-gathering satellite on a booster — called an inertial upper stage — which will place it in orbit 22,300 miles high. There, it will remain in place over the Soviet Union and listen to a variety of communications, including those in missile tests.

It must represent a "block change, a significant improvement," said Mr. Pike, the Federation's associate director for space policy. He is one of the few such specialists in technical intelligence gathering outside the government.

Besides such electronic eavesdropping, Mr. Pike described coming advances in photo-reconnaissance and missile-launch detection from space that "may make it possible to verify arms control agreements that may at present seem unverifiable."

Starting in 1986, he said, the Air Force will launch a new photo-reconnaissance satellite from the shuttle pad at Vandenberg Air Force Base, Calif. Known as KH-12 or IKON, this spacecraft will have "advanced cameras to take photos that can distinguish objects less than 6 inches across, 24 hours a day, and transmit them via satellite for immediate processing and interpretation."